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The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (currently amended) An apparatus for separating ions comprising:

an electrode stack having a length defined along a stacking direction and comprising a plurality of electrodes, each electrode of the electrode stack being spaced apart from an adjacent electrode of the electrode stack ~~in a~~ along the stacking direction ~~along the length of the electrode stack~~, each electrode of the electrode stack having an edge defining a portion of an edge of the electrode stack;

at least an electrode spaced apart from the edge of the electrode stack in a direction transverse to the stacking direction ~~length of the electrode stack~~, the space between the at least an electrode and the edge of the electrode stack defining an analytical gap for allowing ions to propagate therebetween along the stacking direction;

an ion outlet plate disposed adjacent to a first end of the electrode stack and spaced-apart from the electrode stack along the stacking direction, the ion outlet plate defining an ion outlet for extracting from the analytical gap ions propagating along the stacking direction; and,

at least an electrical controller for electrically coupling to at least one of an electrode of the plurality of electrodes of the electrode stack and the at least an electrode, for applying an asymmetric waveform voltage between the electrode of the plurality of electrodes of the electrode stack and the at least an electrode and for applying a direct current voltage between the electrode of the plurality of electrodes of the electrode stack and the at least an electrode so as to establish an electric field within the analytical gap.

Claim 2 (original) An apparatus according to claim 1, wherein the edge of each electrode of the electrode stack is approximately aligned with an edge of every other electrode of the electrode stack so as to define the edge of the electrode stack.

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Claim 3 (previously presented) An apparatus according to claim 1, wherein a spacing between any two adjacent electrodes of the electrode stack is approximately a same spacing.

Claim 4 (previously presented) An apparatus according to claim 1, wherein each electrode of the electrode stack comprises an electrode plate.

Claim 5 (previously presented) An apparatus according to claim 1, wherein each electrode of the electrode stack comprises an electrode rod.

Claim 6 (previously presented) An apparatus according to claim 1, wherein the electrode stack is relatively moveable in a direction toward the at least an electrode, such that a width of the analytical gap is controllably variable.

Claim 7 (previously presented) An apparatus according to claim 1, wherein the at least an electrode comprises an electrode plate having a length and being oriented so as to maintain an approximately uniform spacing along the length of the electrode plate to the edge of the electrode stack.

Claim 8 (original) An apparatus according to claim 7, wherein the electrode plate is curved in a direction along the length of the electrode plate.

Claim 9 (original) An apparatus according to claim 7, wherein the electrode plate is curved in a direction transverse to length of the electrode plate.

Claim 10 (previously presented) An apparatus according to claim 1, wherein the at least an electrode comprises a second electrode stack having a length, the length of the second electrode stack being substantially similar to the length of the electrode stack.

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Claim 11 (original) An apparatus according to claim 10, wherein the second electrode stack comprises a plurality of electrodes, each electrode of the second electrode stack being spaced apart from an adjacent electrode of the second electrode stack in a direction along the length of the second electrode stack, each electrode of the second electrode stack having an edge defining a portion of an edge of the second electrode stack.

Claim 12 (original) An apparatus according to claim 11, wherein the edge of each electrode of the second electrode stack is aligned with an edge of every other electrode of the second electrode stack so as to define the edge of the second electrode stack.

Claim 13 (previously presented) An apparatus according to claim 11, wherein the second electrode stack is disposed such that the edge of the second electrode stack faces the edge of the electrode stack in a spaced apart arrangement, the space between the edge of the second electrode stack and the edge of the electrode stack defining the analytical gap.

Claim 14 (previously presented) An apparatus according to claim 10, wherein the second electrode stack is moveable relative to the first electrode stack in a direction along the length of the second electrode stack.

Claim 15 (cancelled).

Claim 16 (currently amended) An apparatus according to claim 1 [[15]], comprising an ion inlet plate disposed adjacent to a second end of the electrode stack opposite the first end and spaced-apart from the electrode stack along the stacking direction, the ion inlet plate ~~and~~ defining an ion inlet for introducing ions into the analytical gap.

Claim 17 (currently amended) An apparatus according to claim 1 [[15]], comprising ~~means~~ an ion inlet for introducing ions into the analytical gap via a space between at least an electrode of the electrode stack and an adjacent electrode of the electrode stack.

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Claim 18 (cancelled).

Claim 19 (currently amended) An apparatus according to claim 17 [[15]], comprising a gas inlet for introducing a flow of a gas into the analytical gap for carrying the ions in a direction towards the ion outlet.

Claim 20 (original) An apparatus according to claim 19, wherein the gas inlet is disposed at a point that is more distal from the ion outlet relative to the ion inlet.

Claims 21-38 (cancelled).

Claim 39 (original) An apparatus for separating ions comprising:

an electrode assembly including;

at least a first electrode comprising a first plurality of electrode portions;

at least a second electrode comprising a second plurality of electrode portions arranged in alternating sequence with the first plurality of electrode portions along a first direction;

an electrode plate spaced apart from the first plurality of electrode portions and the second plurality of electrode portions in a second direction transverse to the first direction, the space between the electrode plate and the first plurality of electrode portions and the second plurality of electrode portions defining an analytical gap for allowing ions to propagate therethrough along approximately the first direction; and,

at least an electrical controller for electrically coupling to at least one of the at least a first electrode, the at least a second electrode and the electrode plate for establishing an electrical field within the analytical gap resulting from the application of an asymmetric waveform voltage and a direct current voltage between the at least a first electrode, the at least a second electrode and the electrode plate,

whereby ions having suitable high field mobility properties for a given combination of applied asymmetric waveform voltage and direct current voltage are selectively transmitted through the analytical gap.

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Claim 40 (original) An apparatus according to claim 39, wherein at least one of the first plurality of electrode portions and the second plurality of electrode portions is a portion of a formed electrode.

Claim 41 (previously presented) An apparatus according to claim 39, wherein the electrode plate is a flat electrode plate.

Claim 42 (original) An apparatus according to claim 40, wherein the other one of the at least one of the first plurality of electrode portions and the second plurality of electrode portions comprises an electrode stack having a length and comprising a plurality of rods, each rod of the plurality of rods being spaced apart from an adjacent rod in a direction along the length of the electrode stack.

Claim 43 (cancelled).

Claim 44 (currently amended) A method of separating ions comprising the steps of:

introducing ions into a first space defined between adjacent electrode plates of a stacked parallel plate high field asymmetric waveform ion mobility spectrometer;

performing a first separation of the ions within the first space, to selectively transmit a subset of the ions along a first direction between a first end of the electrode plates and a second end of the electrode plates that is opposite the first end;

performing a second separation of the ions within a second space, the second space being defined between edge surfaces of the second end of each of the electrode plates and at least another electrode, to selectively transmit some of the subset of the ions along a second direction approximately transverse to the first direction ~~between the second end of the electrode plates~~ and toward an ion outlet.

Claim 45 (original) A method according to claim 44, comprising the step of providing a first flow of a gas within the first space along the first direction between the first end of the

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electrode plates and a second end of the electrode plates and providing a second flow of a gas within the second space along the second direction and toward the ion outlet.

Claim 46 (original) A method according to claim 44, comprising the step of providing a flow of a gas within the first space along the first direction between the first end of the electrode plates and a second end of the electrode plates and providing a potential gradient within the second space for directing ions propagating therein along the second direction toward the ion outlet.

Claims 47-48 (cancelled).

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